

REMARKS

In the Office Action, the Examiner rejected claims 1-21. By this paper, Applicants cancelled claim 3 and amended claims 1 and 4-6 for clarification of certain features to expedite allowance of the present application. Further, Applicants amended FIG. 6 to incorporate the reference number 122 as labeled in FIG. 5. These amendments do not add any new matter. Upon entry of these amendments, claims 1, 2, and 4-21 remain pending in the present application and are believed to be in condition for allowance. In view of the foregoing amendments and the following remarks, Applicants respectfully request reconsideration and allowance of all pending claims.

Objection to the Drawings

The Examiner objected to the drawings under 37 CFR 1.83(a), asserting that the outer diameter and inner diameter of each bearing of claim 21 must be shown in the drawings. Applicants respectfully traverse this objection. Applicants respectfully assert that FIG. 5 and FIG. 6 illustrate an embodiment depicting a first bearing 124 and a second bearing 126, each having an inner diameter at the shaft 130 and an outer diameter at the cylindrical surface 122. As illustrated in FIG. 6, the second bearing 126 is situated along the same axis behind the first bearing 124, and the two bearings 124 and 126 in this embodiment are depicted as the same size with regard to their inner and outer diameters. Further, as discussed above, Applicants amended FIG. 6 to add the reference numeral 122 (as depicted in FIG. 5) to further clarify the drawings. In sum, with regard to the first bearing 124 and the second bearing 126, FIG. 6 depicts the inner diameter at shaft 130 (e.g., the outer surface of shaft 130) and the outer diameter at surface 122. Accordingly, Applicants respectfully request that the Examiner withdraw the rejection to the drawings.

Claim Rejections under 35 U.S.C. § 112, Second Paragraph

The Examiner rejected claims 13 and 18 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. The Examiner stated “it is not clear how the ground planes

are electrically isolated by a resistor. If the ground planes are connected by a resistor, they are not electrically isolated.” Office Action, page 3. Applicants respectfully traverse this rejection.

As understood by those of ordinary skill in the art, a second electrical ground can be electrically isolated from a first electrical ground via a resistor. *See, e.g.*, Specification, page 11, ¶ 0031. For example, as depicted in FIG. 7, electrical current from the first ground 158 does *not* flow toward the second ground 160 due to the resistance of the resistor 162 (R28). Instead, electrical current from the first ground 158 flows toward the I/O terminals (e.g., terminal 140). *See*, page 11, ¶ 0031; FIG. 7. Therefore, the second ground 160 is electrically isolated from the first ground 158 via positioning of a resistor into the circuitry. Accordingly, Applicants respectfully request that the Examiner withdraw the rejection under 35 U.S.C. § 112.

Claim Rejections under 35 U.S.C. § 102

In the Office Action, the Examiner rejected claims 13-17 under U.S.C. § 102(b) as anticipated by Sunaga et al. (U.S. Patent No. 6,297,572). Of these claims, only claim 13 is independent. Applicants respectfully traverse this rejection.

Legal Precedent

First, during patent examination, the pending claims must be given an interpretation that is reasonable and consistent with the specification. *See In re Prater*, 415 F.2d 1393, 1404-05, 162 U.S.P.Q. 541, 550-51 (C.C.P.A. 1969); *see also* M.P.E.P. §§ 608.01(o) and 2111. Indeed, the specification is “the primary basis for construing the claims.” *See Phillips v. AWH Corp.*, No. 03-1269, -1286, at 13-16 (Fed. Cir. July 12, 2005) (citations omitted). Interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach. *See In re Cortright*, 165 F.3d 1353, 1359, 49 U.S.P.Q.2d 1464, 1468 (Fed. Cir. 1999); M.P.E.P. § 2111. “The inquiry into how a person of ordinary skill in the art understands a claim term provides an objective baseline from which to begin claim interpretation.” *See Collegenet, Inc. v. ApplyYourself, Inc.*, No. 04-1202, -1222, 1251, at 8-9 (Fed. Cir. August 2, 2005) (quoting *Phillips*).

Second, anticipation under section 102 can be found only if a single reference shows exactly what is claimed. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 U.S.P.Q. 773 (Fed. Cir. 1985). For a prior art reference to anticipate under section 102, every element of the claimed invention must be identically shown in a single reference. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). To maintain a proper rejection under section 102, a single reference must teach each and every limitation of the rejected claim. *Atlas Powder v. E.I. du Pont*, 750 F.2d 1569 (Fed. Cir. 1984). The prior art reference also must show the *identical* invention “*in as complete detail as contained in the ... claim*” to support a *prima facie* case of anticipation. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989).

Third, if the Examiner relies on a theory of inherency, the extrinsic evidence must make clear that the missing descriptive matter is *necessarily* present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. *In re Robertson*, 169 F.3d 743, 49 U.S.P.Q.2d 1949 (Fed. Cir. 1999) (Emphasis Added). In relying upon the theory of inherency, the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art. *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original). The Examiner, in presenting the inherency argument, bears the evidentiary burden and must adequately satisfy this burden. *See id.*

Features of Independent Claim 13 Missing from Sunaga et al.

Independent claim 13 recites “a circuit board comprising a *first electrical ground* and a *second electrical ground* electrically *isolated* from the first electrical ground.” In contrast, Sunaga et al. does *not* disclose a first ground, much less a second ground or electrical isolation of a second ground from a first ground. *See, e.g.,* Sunaga, col. 5, lines 1-45; FIG. 1. Indeed, the word “ground” or its equivalent cannot be found in the Sunaga et al. reference. The Examiner pointed to the control circuit substrate 33 of Sunaga et al. as having first and second grounds. Office Action, page 4. However, while the control circuit substrate 33 may possibly be grounded to the housing 4, the control circuit substrate 33 clearly does *not* have a second ground. *See*

Sunaga, col. 5, lines 1-45; FIG. 1. The text and figures of the Sunaga et al. reference are absolutely devoid of the teaching of a second ground isolated from a first ground. In view of these deficiencies, the cited reference cannot anticipate independent claim 13 or its dependent claims. For these reasons, Applicants respectfully request withdrawal of the rejections under 35 U.S.C. § 102, and allowance of the claims.

The Examiner's Assertion of Inherency is Misplaced

The Examiner contended that drive circuit 40 and the motor control circuit 31 *inherently* must be grounded via separate grounds or otherwise “the circuit is burned.” See Office Action, page 4. Applicants respectfully traverse this assertion of inherency because a second isolated ground is *not necessarily present* in the Sunaga et al. configuration. See *In re Robertson*, 49 U.S.P.Q.2d, at 1949. The Sunaga et al. brushless motor utilizes a drive circuit 40 (having switching elements 23) and a motor control circuit 31 to control the switching elements 23. See Sunaga, col. 5, lines 1-45; FIG. 1. The Examiner provided *no* technical basis or objective evidence for his assertion that such circuitry would be “burned” if not separately grounded via isolated grounds. See *Ex parte Levy*, 17 U.S.P.Q.2d, at 1464. Applicants emphasize that such circuitry can readily share a common ground. The use of isolated separate grounds is *not* inherent in Sunaga et al. In sum, the Examiner has not satisfied his burden with regard to establishing inherency. See *id.*

Claim Rejections under 35 U.S.C. § 103(a)

The Examiner rejected claims 1, 2, 11 and 12 under 35 U.S.C. 103(a) as being unpatentable over Papa et al. (Patent No. 6,175,490) in view of von der Heide et al. (Re. 36,168); claims 3-10 as being unpatentable over Papa et al. in view of von der Heide et al. and further in view of Sunaga et al.; claim 18 as being unpatentable over Sunaga et al. in view of Patyk et al. (Patent No. 5,939,807); and claims 19-21 as being unpatentable over Sunaga et al. in view of Petersen (Patent No. 5,874,796). Of these claims, only claim 1 is independent. Applicants respectfully traverse this rejection.

Legal Precedent

The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). Accordingly, to establish a *prima facie* case, the Examiner must not only show that the combination includes *all* of the claimed elements, but also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985). The Examiner must provide objective evidence, rather than subjective belief and unknown authority, of the requisite motivation or suggestion to combine or modify the cited references. *In re Lee*, 61 U.S.P.Q.2d. 1430 (Fed. Cir. 2002). One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

Features of Independent Claim 1 Missing from the Cited References

Independent claim 1, as amended, recites “the three-phase DC motor comprises a circuit board having a *first ground plane* and a *second ground plane*.” In contrast, the Papa et al., von der Heide et al., and Sunaga et al. references cited by the Examiner all fail to teach or suggest a ground plane, much less two ground planes or a circuit board having two ground planes, as claimed. *See, e.g.*, Sunaga, col. 5, lines 1-45; FIG. 1. The Examiner contended that the Sunaga et al. circuit board 30 has a first ground plane for the motor control circuit 31 and a second ground plane for the first substrate 41. Office Action, page 6. However, a circuit board 30 does *not* exist in the Sunaga et al. reference. Further, Applicants emphasize that *none* of the circuits in Sunaga et al. rely on two ground planes. *See, e.g.*, Sunaga, col. 5, lines 1-45; FIG. 1. Applicants also note, contrary to the Examiner’s contention, that the substrate 41 and the motor control circuit 31 do *not* have different ground planes. Office Action, page 6. The substrate 41 and motor control circuit 31 are at most grounded to the same housing 4. *See* Sunaga, col. 5, lines 1-45; FIG. 1. In view of these deficiencies, the cited references, taken alone or in combination,

cannot render obvious independent claim 1 or its dependent claims. For these reasons, Applicants respectfully request withdrawal of the rejection of claim 1 and its dependent claims under 35 U.S.C. § 103, and allowance of the claims.

Improper Combination - Lack of Objective Evidence of Reasons to Combine

In addition, the Examiner has not shown the requisite motivation or suggestion to modify or combine the cited references to reach the present claims. As summarized above, the Examiner must provide objective evidence, rather than subjective belief and unknown authority, of the requisite motivation or suggestion to combine or modify the cited references. *In re Lee*, 61 U.S.P.Q.2d. 1430 (Fed. Cir. 2002). In the present rejection, the Examiner combined the Papa et al. reference and the von der Heide et al. reference based on the *conclusory and subjective statement* that it would have been obvious “to couple a three-phase DC motor to the fan impeller [of Pappa et al.] as taught by von der Heide et al. for the purpose [of having less bulky coils].” See Office Action, page 5. Accordingly, Applicants challenge the Examiner to produce *objective evidence* of the requisite motivation or suggestion to combine the cited references, or remove the foregoing rejection under 35 U.S.C. § 103.

Dependent Claims

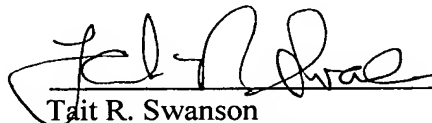
As listed above, the Examiner rejected several dependent claims under 35 U.S.C. § 103. However, none of the references relied on by the Examiner in the cited combinations obviate the deficiencies of the primary references discussed above with regard to independent claims 1 and 13. Therefore, the dependent claims are believed to be patentable by virtue of their dependency on an allowable base claim, and because of the subject matter they separately recite. Moreover, there is no motivation or suggestion to combine or modify the references in the manner asserted by the Examiner or in the manner recited in the dependent claims. Accordingly, Applicants respectfully request that the Examiner withdraw the foregoing rejections and allow the claims.

Conclusion

Applicants respectfully submit that all pending claims should be in condition for allowance. However, if the Examiner believes certain amendments are necessary to clarify the present claims or if the Examiner wishes to resolve any other issues by way of a telephone conference, the Examiner is kindly invited to contact the undersigned attorney at the telephone number indicated below.

Respectfully submitted,

Date: September 21, 2005

A handwritten signature in black ink, appearing to read 'Tait R. Swanson', is written over a horizontal line.

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AMENDMENTS TO THE DRAWINGS

Please replace sheet 3 of the drawings with the attached replacement sheet 3 (having FIG. 5 and FIG. 6).